JOHN M. COFFIN

Office Phone: 617 636 6528

Fax: 617 636 4086

E-Mail: john.coffin@tufts.edu

Education: 1967 B.A. Wesleyan University, Middletown, Connecticut (Biology)

1972 Ph.D. University of Wisconsin (Molecular Biology)

 Advisor: Dr. H.M. Temin

Fields of Scientific Interest: Replication and evolution of retroviruses.

Professional Employment Experience:

 1965-67 Research Assistant

 Children's Cancer Research Foundation

 Boston, Massachusetts

 1967-72 Trainee

 McArdle Laboratory for Cancer Research

 University of Wisconsin, Madison, Wisconsin

 1972-75 Postdoctoral Fellow

 Institut für Molekularbiologie

 Universität Zürich

 Hönggerberg

 8049 Zürich, Switzerland

 1975-78 Assistant Professor

 Molecular Biology and Microbiology

 Tufts University School of Medicine

 Boston, Massachusetts

 1978-82 Associate Professor

 Molecular Biology and Microbiology

 Tufts University School of Medicine

 Boston, Massachusetts

 1982- Professor

 Molecular Biology and Microbiology

 Tufts University School of Medicine

 Boston, Massachusetts

1. Distinguished Professor

Tufts University

Boston, Massachusetts

 1985-93 American Cancer Society, Massachusetts

 Division, Professor of Molecular Biology

 Tufts University School of Medicine

 Boston, Massachusetts

 1994- American Cancer Society Research

 Professor of Molecular Biology

 Tufts University School of Medicine

 Boston, Massachusetts

 1997-2005 Director, HIV Drug Resistance Program

 National Cancer Institute

 Frederick, Maryland

HONORS AND SERVICE

 Sigma XI

 Fellow, Jane Coffin Childs Memorial Fund for Medical Research, 1972-74

 Fellow, EMDO, 1974-75

 Editorial Boards:

 J. Virol. 1978-1991

 Virology, 1980-1993, 2003-

 Oncogene Res. 1987-1991

 Oncogene, 1988-1992

 Leukemia, 1990-1997

 Genes and Development, 1991-1994

 Proc. Natl. Acad. Sci. USA 2000-

 Editor, Journal of Virology, 1991-1997

 Virology Study Section, 1980-1984

 Organizer, Cold Spring Harbor meeting on RNA Tumor Viruses, 1981, 1991, 1997

 Frequent Ad Hoc reviewer for Cancer Center core and program project grants, etc.

Member, Retrovirus subsection, International Committee on the Taxonomy of Viruses, 1982-1987, Chair, 1987-95

 Member, California AIDS Task Force, Basic Science Review Group, 1986-97, Chair 1993-97

 Member, Leukemia Society of America, Grant Review Subcommittee, 1987-1991; 1992-2000

 Chair 1997-2000

 Member, Leukemia Society of America, National Board of Trustees, 1987-1991, 1992-

 Member, National Cancer Institute Manpower Initial Review Group, 1987-1991

 Outstanding Investigator Award, National Institutes of Health, 1987-1994; 1994-2001

 Reviewing Editor, Science, 1987- 1996

 American Society for Microbiology Foundation Lecturer, 1988-1989

Member, Institute of Medicine Committee to Study the AIDS Research Program of the NIH, 1989-1991

 Milton and Natalie Zucker Award for Research, 1989, 1997

 Rapporteur, VI International Conference on AIDS, 1990

 Member, Advisory Board, Museum of Science Human Body Discovery Space 1990-1991

Member, ILAR Committee on Transgenic Nomenclature, National Academy of Sciences, 1991-1993

 Member, Pediatric AIDS Foundation Ariel Project, Board of Scientific Councilors.

Member, National Cancer Institute-Frederick Cancer Research & Development Center Advisory Committee, 1993-, Chair, 1995-1997

 Fellow, American Academy of Microbiology, 1993

 American Cancer Society Research Professorship, 1994

 Member, ACTG Scientific Advisory Board, 1995-1996

 Member, Panel to Assess the NIH Investment in Gene Therapy, 1995

Member, Oversight Committee for the NIH AIDS Research Program, 1996

Distinguished Faculty Award, Tufts University, 1997

 Member, National Academy of Science, 1999-

 Member, NRC Committee on Concerns Associated with Animal Biotechnology, 2001-2002

 Distinguished Professor, Tufts University, 2002

 Fields Memorial Lecturer, Tenth Conference on Retroviruses and Opportunistic Infections, 2003

 Distinguished Research Career Award, Center for Retrovirology, Ohio State University, 2003

 Member Scientific Advisory Board, Aaron Diamond AIDS Research Center, 2003-

 Member, CROI Program Committee, 2003-Present, Vice Chair, 2008-2010, Chair 2011-2012

 Massachusetts Columbus Quincentennial Award, 2006

 Fellow, Massachusetts Academy of Sciences, 2008

 Gertrude Elion Memorial Lecture, HIV DART, 2010

Fellow, AAAS, 2014

JOHN M. COFFIN

PUBLICATIONS

Temin, H.M., S. Mizutani, and J.M. Coffin. 1971. DNA polymerases and other enzymes of RNA tumor viruses. Proc. 3rd Miami Winter Symposia. North Holland, Amsterdam. pp. 291-310.

Coffin, J.M. and H.M. Temin. 1971. Comparison of Rous sarcoma virus specific deoxyribonucleic acid polymerases in virions of Rous sarcoma virus and in Rous sarcoma virus-infected chicken cells. J. Virol. 7:625-634.

Coffin, J.M. 1971. Particles containing and RNA-directed polymerase system in cells infected with Rous sarcoma virus. Proceedings of the First Oak Ridge Symposium on Fetal Antigens and Cancer. pp. 151-162.

Coffin, J.M. and H.M. Temin. 1971. Ribonuclease-sensitive deoxyribonucleic acid polymerase activity with uninfected rat cells and in rat cells infected with Rous sarcoma virus. J. Virol. 9:766-775.

Coffin, J.M. 1972. Rescue of Rous sarcoma virus from Rous sarcoma virus-infected rat cells. J. Virol. 10:153-156.

Parsons, J.T., J.M. Coffin, R.K. Haroz, P.A. Bromley, and C. Weissmann. 1973. Quantitative determination and location of newly synthesized virus-specific ribonucleic acid in chicken cells infected with Rous sarcoma virus. J. Virol. 11:761-774.

Coffin, J.M., J.T. Parsons, L. Rymo, R.K. Haroz, and C. Weissmann. 1974. A new approach to the isolation of RNA-DNA hybrids and its application to the quantitative determination of labeled tumor virus RNA. J. Molec. Biol. 86:373-396.

Rymo, L., J.T. Parsons, J.M. Coffin and C. Weissmann. 1974. In vitro synthesis of Rous sarcoma virus RNA is catalyzed by a DNA-dependent RNA polymerase. Proc. Natl. Acad. Sci. U.S.A. 71:2782-2786.

Billeter, M.A., J.T. Parsons and J.M. Coffin. 1974. The nucleotide sequence complexity of avian tumor virus RNA. Proc. Natl. Acad. Sci. U.S.A. 71:3560-3564.

Weissmann, C., J.T. Parsons, J.M. Coffin, L. Rymo, M.A. Billeter, and H. Hofstetter. 1974. Studies on the structure and synthesis of Rous sarcoma virus RNA. Cold Spring Harbor Symp. Quant. Biol. 34:1043-1056.

Coffin, J.M. and M.A. Billeter. 1976. A physical map of the Rous sarcoma virus genome. J. Molec. Biol. 100:293-318.

Humphries, E.H. and J.M. Coffin. 1976. Rate of virus-specific RNA synthesis in synchronized chicken embryo fibroblasts infected with Rous sarcoma virus. J. Virol. 17:393-401.

Coffin, J.M. 1976. Genes responsible for transformation by avian RNA tumor viruses. Cancer Research 36:4282-4288.

Coffin, J.M. and W.A. Haseltine. 1977. Terminal redundancy and origin of replication of Rous sarcoma virus RNA. Proc. Natl. Acad. Sci. U.S.A. 74:1908-1912.

Pettersson, R., M. Hewlett, D. Baltimore, and J.M. Coffin. 1977. The genome of Uukuniemi virus consists of three unique RNA segments. Cell 11:51-63.

Clewly, J.P., D.H.L. Bishop, C-Y. Kang, J. Coffin, W.M. Schnitzlein, M.E. Reichmann, and R.E. Shope. 1977. Oligonucleotide fingerprints of RNA species obtained from rhabdoviruses belonging to the vesicular stomatitis virus subgroup. J. Virol. 23:152-166.

Coffin, J.M., M.A. Champion, and F. Chabot. 1978. Genome structure of avian RNA tumor viruses: Relationships between exogenous and endogenous viruses. In: Avian RNA Tumor Viruses (S. Barlatti and C. deGhiuli-Morghen, eds.). Piccin Medical Books, Padua. pp. 68-87.

Coffin, J.M. and W.A. Haseltine. 1978. Nucleotide sequence of Rous sarcoma virus RNA at the initiation site of DNA synthesis: The 102nd nucleotide is U. J. Molec. Biol. 117:805-814.

Coffin, J.M., T.C. Hageman, A. Maxam and W. Haseltine. 1978. Structure of the genome of Moloney murine leukemia virus: A terminally redundant sequence. Cell 13:761-773.

Shih, T.Y., H.A. Young, J.M. Coffin and E.M. Scolnick. 1978. Physical map of the Kirsten sarcoma virus genome as determined by fingerprinting RNase T1-resistant oligonucleotides. J. Virol. 25:238-252.

Shaikh, R., M. Linial, J.M. Coffin and R.E. Eisenman. 1978. Recombinant avian oncoviruses: I. alterations in precursor to internal structural proteins. Virology 87:326-338.

Haseltine, W.A. and J.M. Coffin. 1978. In vitro studies of the replication of Moloney murine leukemia virus. Cold Spring Harbor Symp. Quant. Biol. 43:841-849.

Coffin, J.M., M.A. Champion, and F. Chabot. 1978. Nucleotide sequence relationships between the genomes of an endogenous and exogenous avian tumor virus. J. Virol. 28:972-991.

Haseltine, W.A., J.M. Coffin and T.C. Hageman. 1979. Structure of products of the Moloney murine leukemia virus endogenous DNA polymerase reaction. J. Virol. 30:375-383.

Coffin, J.M. 1979. Structure, replication and recombination of retrovirus genomes: some unifying hypothesis. J. Gen. Virol. 42:1-26.

Tsichlis, P.N. and J.M. Coffin. 1979. Recombination between the defective component of an acute leukemia virus and Rous associated virus 0, an endogenous virus of chickens. Proc. Natl. Acad. Sci. U.S.A. 76:3001-3005.

Tsichlis, P.N., K.F. Conklin and J.M. Coffin. 1980. Mutant and recombinant avian retroviruses with extended host range. Proc. Natl. Acad. Sci. U.S.A. 77:536-540.

Tsichlis, P.N. and J.M. Coffin. 1980. Recombinants between endogenous and exogenous avian tumor viruses: Role of the c region and other portions of the genome in the control of replication and transformation. J. Virol. 33:238-249.

Coffin, J.M. 1980. Structural analysis of retrovirus genomes. In: Molecular Biology of RNA Tumor Viruses. (J.R. Stephenson, ed.). Academic Press, Inc., New York. pp. 199-243.

Tsichlis, P.N. and J.M. Coffin. 1980. Role of the c region in relative growth of endogenous and exogenous avian oncoviruses. Cold Spring Harbor Symp. Quant. Biol. 44:1123-1132.

Robinson, H.L., M.N. Pearson, D.W. DeSimone, P.N. Tsichlis and J.M. Coffin. 1980. Subgroup E avian leukosis virus-associated disease in chickens. Cold Spring Harbor Symp. Quant. Biol. 44:1133-1142.

Robinson, H.L., P.N. Tsichlis, and J.M. Coffin. 1980. Viral envelope genes and c regions in non-acute avian leukosis virus associated disease. In: Animal Virus Genetics (B. Fields, R. Jaenisch, and F. Fox, eds.). Academic Press, Inc., New York. pp. 443-453.

Robinson, H.L., M.N. Pearson, P.N. Tsichlis, and J.M. Coffin. 1980. Viral envelope antigens and c regions in non-acute leukosis virus associated disease. In: Viruses in Naturally Occuring Cancer, Cold Spring Harbor Press. pp. 543-551.

Coffin, J.M., P.N. Tsichlis, C.S. Barker and S. Voynow. 1980. Variation in avian retrovirus genomes. Ann. N.Y. Acad. Sci. 354:410-425.

Green, N., H. Hiai, J.H. Elder, R.S. Schwartz, R.H. Khiroya, C.Y. Thomas, P.N. Tsichlis, and J.M. Coffin. 1980. Expression of leukemogenic recombinant viruses associated with a recessive gene in HRS/J mice. J. Exp. Med. 152:249-264.

Eisenman, R., W.N. Burnette, P. Heater, F. Zucco, H. Diggelmann, P. Tsichlis, and J. Coffin. 1980. Synthesis and processing of the internal structural proteins of retroviruses: Site of synthesis, evidence for multiply-charged species, and analysis of a mutant defective in processing. In: Biosynthesis, Modification and Processing of Cellular and Viral Polyproteins. (G. Koch and D. Richter, eds.). Academic Press, Inc., New York. pp. 233-247.

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Coffin, J.M., H.E. Varmus, J.M. Bishop, M. Essex, W.D. Hardy, G.S. Martin, N.E. Rosenberg, E.M. Scolnick, R.A. Weinberg, and P.K. Vogt. 1981. A proposal for naming host cell-derived inserts in retrovirus genomes. J. Virol. 40:953-957.

Robinson, H.L., B.M. Blais, P.N. Tsichlis, and J.M. Coffin. 1982. At least two regions of the viral genome determine the oncogenic potential of avian leukosis viruses. Proc. Natl. Acad. Sci. U.S.A. 79:1225-1229.

Conklin, K.F., J.M. Coffin, H.L. Robinson, M. Groudine, and R. Eisenman. 1982. Role of methylation in the induced and spontaneous expression of the avian endogenous virus ev-1: DNA structure and gene products. Mol. and Cell. Biol. 2:638-652.

Weiss, R., N. Teich, H.E. Varmus, and J.M. Coffin (eds.) 1982. Molecular Biology of Tumor Viruses, Part III: RNA Tumor Viruses. Cold Spring Harbor Press, Cold Spring Harbor, N.Y.

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Coffin, J.M. 1982. Endogenous Viruses. Chapter 10. In: Molecular Biology of Tumor Viruses. Part III: RNA Tumor Viruses. (R. Weiss, N. Teich, H.E. Varmus, and J.M. Coffin, eds.). Cold Spring Harbor Press, Cold Spring Harbor, N.Y. pp. 1109-1203.

Coffin, J.M., K.F. Conklin, P.N. Tsichlis, and H.L. Robinson. 1982. Genetic analysis of pathogenic and non-pathogenic avian retroviruses. In: Expression of Differentiated Functions in Cancer Cells. (R. Revoltella, G.M. Pontieri, C. Basilico, G. Rovera, R.C. Gallo, and J.H. Subak-Sharpe, eds.). Raven Press, New York. pp. 423-433.

Thomas, C.Y. and J.M. Coffin. 1982. Genetic alterations of RNA leukemia viruses associated with the development of spontaneous thymic leukemia in AKR/J mice. J. Virol. 43:416-426.

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Mermer, B., M. Malamy, and J.M. Coffin. 1983. Rous sarcoma virus contains sequences which permit expression of the gag gene in Escherichia coli. Mol. Cell. Biol. 3:1746-1758.

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Schaechter, M. and J.M. Coffin. 1985. Book Review. The Microbe, 1984. Science 227:158-159.

Voynow, S.L. and J.M. Coffin. 1985. Evolutionary variants of Rous sarcoma virus: Large deletion mutants do not result from homologous recombination. J. Virol. 55:67-78.

Voynow, S.L. and J.M. Coffin. 1985. Truncated gag-related proteins are produced by large deletion mutants of Rous sarcoma virus and form virus particles. J. Virol. 55:79-85.

Robinson, H.L., L. Jensen, and J.M. Coffin. 1985. Sequences outside of the LTR determine the lymphomagenic potential of Rous associated virus-1. J. Virol. 55:752-759.

Shank, P.R., P.J. Schatz, L.M. Jensen, P.N. Tsichlis, J.M. Coffin, and H.L. Robinson. 1985. Sequences in the gag-pol 5' env region of avian leukosis viruses confer the ability to induce osteopetrosis. Virology 145:94-104.

Coffin, J.M. 1985. Supplement to Chapter 4. Genome Structure. In: Molecular Biology of Tumor Viruses. Part III: RNA Tumor Viruses. (R. Weiss, N. Teich, H.E. Varmus, and J.M. Coffin, eds.). pp. 17-73. Cold Spring Harbor Press, Cold Spring Harbor, N.Y.

Stoye, J.P. and J.M. Coffin. 1985. Supplement to Chapter 10. Endogenous Viruses. In: Molecular Biology of Tumor Viruses. Part III: RNA Tumor Viruses. (R. Weiss, N. Teich, H.E. Varmus, and J.M. Coffin, eds.). pp. 357-404. Cold Spring Harbor Press, Cold Spring Harbor, N.Y.

Van Beveren, C., J. Coffin, and S. Hughes. 1985. Appendix. In: Molecular Biology of Tumor Viruses. Part III: RNA Tumor Viruses. (R. Weiss, N. Teich, H.E. Varmus, and J.M. Coffin, eds.). pp. 559-1221. Cold Spring Harbor Press, Cold Spring Harbor, N.Y.

Weiss, R., N. Teich, H.E. Varmus, and J.M. Coffin. 1985. Molecular Biology of Tumor Viruses. Part III: RNA Tumor Viruses. Second edition, two volumes. Cold Spring Harbor Press, Cold Spring Harbor, N.Y.

Dorner, A.J. and J.M. Coffin. 1986. Determinants for receptor interaction and cell killing on the avian retrovirus glycoprotein gp85. Cell 45: 365-374.

Coffin, J., A. Haase, J.A. Levy, L. Montagnier, S. Oroszlan, N. Teich, H. Temin, K. Toyoshima, H. Varmus, P. Vogt, and R. Weiss. 1986. Letter: Human Immunodeficiency Viruses. Science 232:697; Nature 321:10.

Coffin, J..M. 1986. Minireview: Genetic variation in AIDS viruses. Cell 46:1-4

Herman, S.A. and J.M. Coffin. 1986. Differential transcription from the long terminal repeats of integrated avian leukosis virus DNA. J. Virol. 60:497-505.

Norton, P.A. and J.M. Coffin. 1987. Characterization of Rous sarcoma virus sequences essential for viral gene expression. J. Virol. 61:1171-1179.

Herman, S.A. and J.M. Coffin. 1987. Efficient packaging of readthrough RNA in retroviruses: Implications for oncogene transduction. Science 236:845-848.

Mitrani, E., J. Coffin, H. Boedtker, and P. Doty. 1987. Rous sarcoma virus is integrated but not expressed in chicken early embryonic cells. Proc. Natl. Acad. Sci. 84:2781-2784.

Stoye, J. P., and J. M. Coffin. 1987. The four classes of endogenous murine leukemia virus: structural relationships and potential for recombination. J Virol 61:2659-2669. PMC 255766

Stoye, J.P. and J.M. Coffin. 1988. Polymorphism of murine endogenous proviruses revealed using virus class-specific oligonucleotide probes. J. Virol. 62:168-175.

Leis, J., D. Baltimore, J.M. Bishop, J. Coffin, E. Fleissner, S.P. Goff, S. Oroszlan, H. Robinson, A.M. Skalka, H.M. Temin, and V. Vogt. 1988. A standardized and simplified nomenclature for proteins common to all retroviruses. J. Virol. 62:1808-1809.

Shih, C-C., J.P. Stoye, and J.M. Coffin. 1988. Highly preferred targets for retrovirus integration. Cell 53: 531-537.

Stoye, J.P., S. Fenner, G.E. Greenoak, C. Moran, and J.M. Coffin. 1988. Role of endogenous viruses as mutagens: The hairless mutation of mice. Cell 54: 383-391.

Hopper, P. and J.M. Coffin. 1988. Inhibition of retroviral replication by antisense RNA expression. in Current Communications in Molecular Biology: Viral Vectors. (Y. Gluzman and S. Hughes, eds.) pp. 139-145

Coffin, J.M. 1989. Replication of retrovirus genomes. Chapter 1 in: RNA Genetics vol. II: Retroviruses, Viroids, and RNA Recombination (E. Domingo, J.J. Holland, and P. Ahlquist, eds.) pp. 3-22. CRC Press, Boca Raton, Fla.

16 Frankel, W.N., J.P. Stoye, B.A. Taylor, and J.M. Coffin. 1989. Genetic analysis of endogenous xenotropic murine leukemia viruses: Association with two common mouse mutations and the viral restriction locus *Fv-1*. J. Virol. 63: 1763-1774.

Swain, A., and J.M. Coffin. 1989 Polyadenylation at correct sites in genome RNA is not required for retrovirus replication or genome encapsidation. J. Virol 63: 3301-3306.

Frankel, W.N., J.P. Stoye, B.A. Taylor, and J.M. Coffin. 1989. Genetic identification of endogenous polytropic proviruses using recombinant inbred mice. J. Virol. 63: 3810-3821.

Coffin, J.M. 1989. Retroviridae and their replication. Chapter 51 in: Virology, 2nd edition. (Fields, B., Knipe, D., Chanock, R., Hirsch, M., Melnick, J., Monath, T. and Roizman, B., eds). Raven Press, New York.

Coffin, J. M., J.P. Stoye, and W.N. Frankel. 1989. Genetics of endogenous murine leukemia viruses. Ann. N.Y. Acad. Sci. 567: 39-49.

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Coffin, J.M. 1990 Molecular mechanisms of nucleic acid integration. J. Med. Virol. 31: 43-49.

Lee, Y.M. and Coffin, J.M. 1990. Highly efficient autointegration of avian retrovirus DNA in vitro. J. Virol. 64: 5958-5965

Gerstein, R.M., W. N. Frankel, C.-L. Hsieh, J.M. Durdik, S. Rath, J.M. Coffin, A. Nisonoff, and E. Selsing. 1990. Isotype switching of an immunoglobulin heavy chain transgene occurs by DNA recombination between different chromosomes. Cell 63: 537-548

Coffin, J.M. and C. Moore. 1990. Determination of 3' end processing in retroelements. Trends in Genetics 69: 276-277.

Coffin, J.M. 1990. Genetic variation in retroviruses. In: Applied Virology Research: Volume 2. Virus Variability, Epidemiology, and Control (E. Kurstak, R.G. Marusyk, F.A. Murphy, and M.H.V. Van Regenmortel, eds.). pp 11-33. Plenum Press, New York.

Coffin, J.M. 1990. Genetic variation in avian retroviruses. Develop. Biol. Standard. 72: 123-132.

Coffin, J.M. 1990. The virology of AIDS: 1990. Aids 1990. 4 (suppl 1): S1-S8.

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Coffin, J.M. 1991. Book Review. Virus Hunting: AIDS, Cancer, and the Human Retrovirus (by Robert Gallo). N. Engl. J. Med. 325: 665-666.

Stoye, J.P., W.N. Frankel, and J.M Coffin. 1991. DNA hybridization in dried gels with fragmented probes: An improvement over blotting techniques. Technique. 3: 123-128.

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**\*Authors contributed equally.**